

LISTING OF THE CLAIMS

This listing of claims replaces all prior versions and listing of claims in the application:

1. (Currently Amended) A heat transfer device for removing heat energy from a plurality of ~~heat loads, electronic components separated from one another, the heat transfer device~~ comprising:

a heat exchange structure containing a working fluid in a substantially closed envelope defining ~~at least one~~ an evaporator and ~~at least one~~ a condenser that are coupled by a vapor line and a liquid return line to provide a circulating path for the working fluid, through vaporization of a liquid phase of the working fluid at the evaporator, condensation of a vapor phase of the working fluid at the condenser, and return of the working fluid from the condenser to the evaporator through said liquid return line;

wherein the evaporator comprises a bottom wall having a first portion at least partially defining ~~defines~~ a reservoir, and second and third portions elevated with respect to the first portion and each at least partially defining a respective evaporation chamber adjacent the reservoir, the reservoir in flow communication with the liquid return line ~~for the liquid phase of the working fluid and~~ positioned below a turret that defines a vapor accumulator arranged in flow communication with said vapor line, ~~and said liquid return line, and wherein the evaporator further comprises two spaced apart evaporation chambers~~ the evaporation chambers separated by the reservoir, each of the second and third portions of the wall positioned for application of heat energy from distinct ones of the heat loads electronic components, and said two ~~spaced apart~~ evaporation chambers ~~being~~ commonly supplied with the liquid phase of the working fluid from the reservoir that is ~~located between said two evaporation chambers and~~ below said vapor accumulator.

2. (Currently Amended) The heat transfer device according to claim 1, wherein the evaporator consists essentially of an integral vessel comprising thermally conductive material, said ~~spaced apart~~ evaporation chambers being located at spaced positions on the integral vessel.

3. (Currently Amended) The heat transfer device according to claim 1, wherein the reservoir contains the liquid phase of the working fluid to a level that is disposed ~~between and~~ below said ~~spaced-apart~~ evaporation chambers.

4. (Currently Amended) The heat transfer device according to claim 1, wherein the reservoir is coupled to at least one of the ~~spaced-apart~~ evaporation chambers by a wicking material supporting capillary flow of the liquid phase of the working fluid.

5. (Currently Amended) The heat transfer device according to claim 1, wherein the reservoir is defined by at least one recessed well positioned below said turret in an enclosure defining the evaporator, said ~~spaced-apart~~ evaporation chambers being located between walls of the enclosure.

6.-13. (Canceled)

14. (Currently Amended) The heat transfer device according to claim 5, ~~wherein at least two of the spaced-apart evaporation chambers abut the recessed well at stepped edges of an underside of the evaporator, surrounding the recessed well, whereby the spaced-apart evaporation chambers are supplied commonly from the recessed well, and further comprising a vapor outlet placed substantially over the recessed well and opening into said turret so as to be in flow communication with said vapor accumulator, whereby vapor from the evaporation points~~ chambers diffuses commonly into the vapor outlet.

15. (Currently Amended) A heat transfer device for removing heat energy from a plurality of ~~heat loads, electronic components separated from one another, the heat transfer device~~ comprising:

a heat exchange structure containing a working fluid in a substantially closed envelope defining ~~at least one~~ an evaporator including a vapor accumulator in flow communication with a vapor line, ~~and at least one~~ a condenser ~~that is coupled to said at least one~~ evaporator by said vapor line, and a liquid return line to provide a circulating path for the working fluid, through vaporization of a liquid phase of the working fluid at the evaporator, condensation of a vapor phase of the working fluid at the condenser, and return of the working fluid from the condenser to the evaporator through said liquid return line;

wherein the evaporator comprises a bottom wall having a first portion at least partially defining ~~defines~~ a reservoir, and second and third portions elevated with respect to the first portion and each at least partially defining a respective evaporation chamber adjacent the reservoir, the reservoir in flow communication with the liquid return line, ~~for the liquid phase of the working fluid, and the evaporator comprises two spaced-apart evaporation chambers separated by the reservoir, each of the second and third portions of the wall positioned for application of heat energy from distinct ones of the heat loads electronic components and, said two spaced-apart evaporation chambers being~~ commonly supplied with the liquid phase of the working fluid from the reservoir ~~that is located between said two evaporation chambers.~~

16. (Currently Amended) A heat transfer device for removing heat energy from a plurality of ~~heat loads,~~ electronic components separated from one another, the heat transfer device comprising:

a heat exchange structure containing a working fluid in a substantially closed envelope defining (i) ~~at least one~~ an evaporator including a turret that defines a vapor accumulator arranged in flow communication with a vapor line ~~and a liquid return line,~~ and (ii) ~~at least one~~ a condenser that is coupled to said ~~turret~~ evaporator by said vapor line and said liquid return line so as to provide a circulating path for the working fluid, through vaporization of a liquid phase of the working fluid at the evaporator, condensation of a vapor phase of the working fluid at the condenser, and return of the working fluid from the condenser to the evaporator through said liquid return line;

wherein ~~at least one~~ the evaporator comprises a bottom wall having a first portion at least partially defining ~~defines~~ a reservoir, and second and third portions elevated with respect to the first portion and each at least partially defining a respective evaporation chamber adjacent the reservoir, the reservoir in flow communication with the liquid return line ~~for the liquid phase of the working fluid,~~ and the evaporator ~~comprises two spaced-apart~~ evaporation chambers separated by the reservoir, each of the second and third portions of the wall positioned for application of heat energy from distinct ones of the heat loads electronic components, said two ~~spaced-apart~~ evaporation chambers ~~being~~ commonly supplied with the liquid phase of the working fluid from the reservoir ~~that is located between said two evaporation chambers.~~

17. (New) The heat transfer device according to claim 15, wherein at least two of the distinct electronic components produces a different level of heat energy.

18. (New) The heat transfer device according to claim 15, wherein at least one evaporation chamber is supplied with the liquid phase of the working fluid from the reservoir by a wicking structure.

19. (New) The heat transfer device according to claim 16, wherein at least two of the distinct electronic components produces a different level of heat energy.

App. No. 10/685,954

Response and Amendment dated April 13, 2007

Reply to Office Action dated November 13, 2006

Attorney Docket No. 022232-9050-US

20. (New) The heat transfer device according to claim 16, wherein at least one evaporation chamber is supplied with the liquid phase of the working fluid from the reservoir by a wicking structure.